

CLAIMS

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A method for fabricating a high density ceramic thick film comprising the steps of:

- 5 providing vehicle comprising an organic binder and solvent;
dispersing ceramic powders into the vehicle to be paste;
forming the paste to thick film by screen printing;
removing the organic binder from the film;
applying sol or sol-like solution to the surface of the film so that the sol
10 or sol-like solution can infiltrate into the film;
removing remaining sol or sol-like solution from the surface of the film by
spinning the film;
drying and preheating the film; and
sintering the film at the range from 700 to 1200°C.

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2. The method of claim 1, wherein the sol-like solution has metal organic PZT component separated, mixed or dissolved in a solvent.

3. The method of claim 1, wherein the sol or sol-like solution are
20 identical components with the ceramic powder.

4. The method of claim 1, wherein the sol or sol-like solution are not identical components with the ceramic powder.

5. The method of claim 1, wherein the thick film is densified by forming a thick film with a certain thickness by screen printing, then having the sol and sol-like solution infiltrated into the surface of the thick film and performing the process repeatedly more than twice.

~~3b A2~~ 6. The method of claim 1, wherein sintering temperature is 800 to 900°C in case of sintering.

- 10 7. The method of claim 1, wherein the thickness of the thick film is at the range of 1 to 200 μm .

8. A method for fabricating a high density ceramic thick film comprising the steps of:
- 15 providing vehicle comprising an organic binder and solvent;
dispersing ceramic powders into the vehicle to be paste;
forming the paste to thick film by screen printing;
removing the organic binder from the film;
applying sol or sol-like solution to the surface of the film so that the sol
20 or sol-like solution can infiltrate into the film; and
sintering the film at 600 to 700°C.

~~3b A3~~ 9. A method for fabricating a high density ceramic thick film

comprising the steps of:

providing vehicle comprising an organic binder and solvent;

dispersing ceramic powders into the vehicle to be paste;

forming the paste to thick film by screen printing;

5 removing the organic binder from the film;

applying sol or sol-like solution to the surface of the film so that the sol
or sol-like solution can infiltrate into the film;

removing remaining sol or sol-like solution from the surface of the film by
spinning the film;

10 drying and preheating the film;

sintering the film;

applying sol or sol-like solution to the surface of the film again so that the
sol or sol-like solution can infiltrate into the film; and

15 sintering the film;